

Claims

1. A method for separating different kinds of solid plastic particles in a solid plastic mixture, said method comprising the steps of preparing a solid plastic mixture comprising plural kinds of diamagnetic solid plastic particles, floating, suspending or precipitating said solid plastic particles in a supporting liquid, applying a magnetic field gradient to the solid plastic mixture, and levitating or anti-levitating said the plastic particles at different locations in the supporting liquid under a magnetic field gradient, depending upon their densities and diamagnetic susceptibilities.

2. A method claimed in claim 1, wherein a paramagnetic liquid is used as the suspending liquid.

3. A method claimed in claim 1 or 2, wherein an aqueous solution of paramagnetic inorganic salt is used as the suspending liquid.

4. A method claimed in claim 1 or 2, wherein the separation is continuously carried out by circulating the suspending liquid.

5. A method claimed in claim 3, wherein the separation is continuously carried out by circulating the suspending liquid.

Abstract

Under a magnetic field gradient, solid plastic particles floating and/or sinking in a suspending liquid (most suitably a paramagnetic one) are levitated or anti-levitated at different locations depending on their densities and diamagnetic susceptibilities.

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